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Prepared in cooperation with the U.S. Geological Survey,
Southern California Areal Mapping Project

Preliminary Geologic Map available from:
http://www.conservation.ca.gov/cgs/rghm/rgm/preliminary_geologic_maps.htm

GEOLOGIC MAP OF THE CAMARILLO 7.5' QUADRANGLE VENTURA COUNTY, CALIFORNIA: A DIGITAL DATABASE

VERSION 1.0

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Digital Database
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2004

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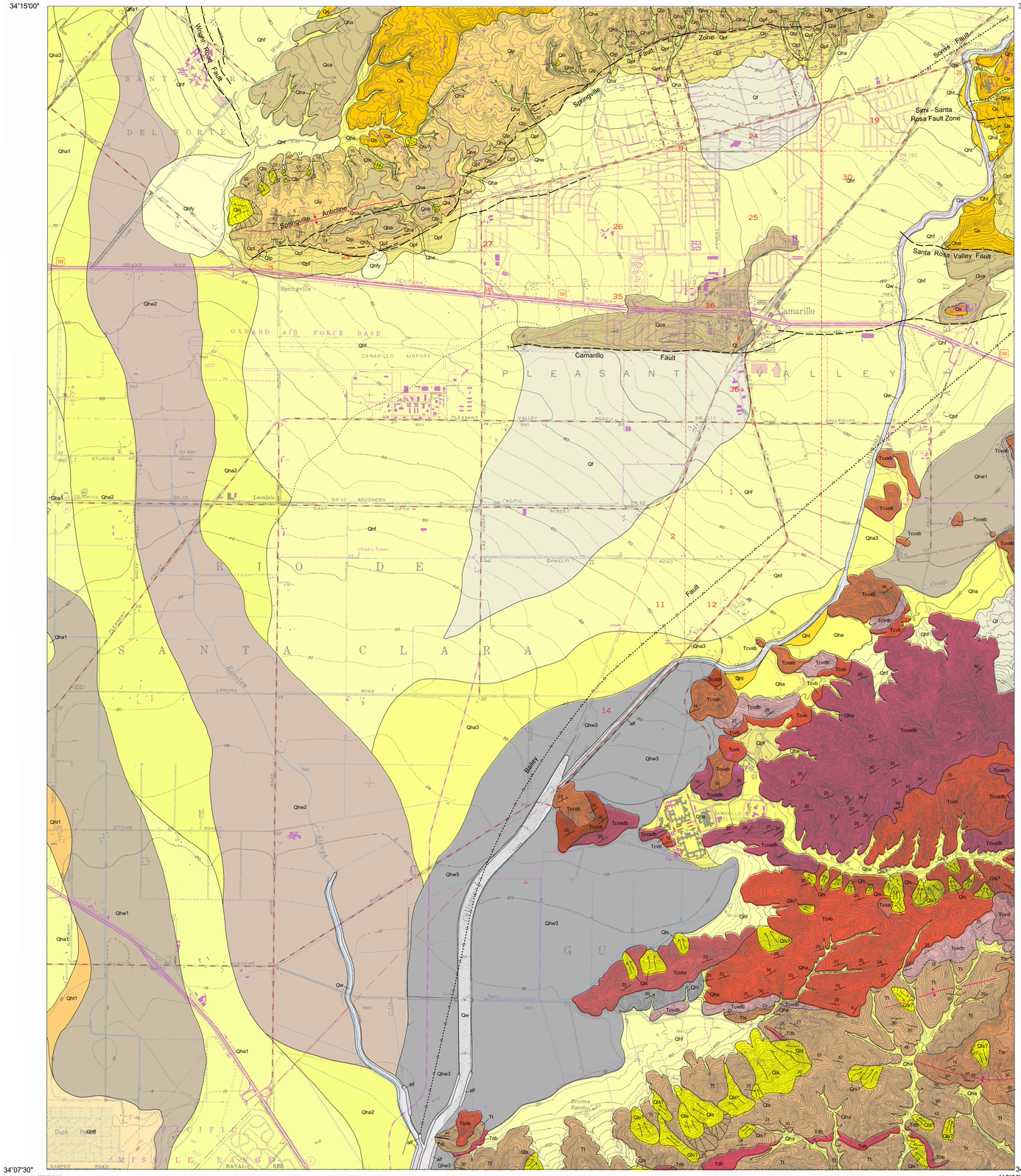


Topographic base from
the U.S. Geological Survey
UTM Projection, zone 11,
North American Datum 1927

GN Mv
1°10' 21 MILS
15½° 276 MILS
UTM GRID AND 1967 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

0 .5 1 2 Miles
0 .5 1 2 Kilometers
0 1 2 3 Thousand Feet

Contour Interval 20 Feet
Dotted Lines Represent 5 Foot Contours

This geologic map was funded in part by the
USGS National Cooperative Geologic Mapping
Program, Statemap Award no. 03HQAG0085

EXPLANATION OF MAP UNITS

alf — Artificial levee fill (Holocene, historic) - May be engineered and/or non-engineered.

Qw — Active wash deposits within major river channels (Holocene) - Composed of unconsolidated silt, sand and gravel.

Qht — Stream terrace deposits (latest Holocene) - Deposited in point bar and overbank settings associated with unit Qhw_1; composed of unconsolidated, poorly sorted clayey sand and sandy clay with gravel.

Qhfy — Alluvial fan deposits (latest Holocene) - Latest Holocene age is indicated by historical inundation or the presence of youthful braid bars and distributary channels; often deposits emanate from a point partway down the alluvial fan slope. Composed of moderately to poorly sorted and bedded gravel, sand, silt, and clay.

Qha — Alluvial deposits (Holocene) - Deposited as overbank material associated with unit Qw, recognized by scour and incised channeling features; composed of unconsolidated, poorly sorted clayey sand with some gravel. May include terrace deposits (Qht).

Qhw_3 — Wash deposits (Holocene) - Composed of unconsolidated sand, silt and gravel.

Qha_3 — Alluvial deposits (Holocene) - Deposited as overbank material associated with unit Qhw_3, recognized by scour and incised channeling features; composed of unconsolidated, poorly sorted clayey sand with some gravel.

Qhw_2 — Wash deposits (Holocene) - Composed of unconsolidated sand, silt and gravel.

Qha_2 — Alluvial deposits (Holocene) - Deposited as overbank material associated with unit Qhw_2, recognized by scour and incised channeling features; composed of unconsolidated, poorly sorted clayey sand with some gravel.

Qhw_1 — Wash deposits (Holocene) - Composed of unconsolidated sand, silt and gravel.

Qht_1 — Stream terrace deposits (Holocene) - Deposited in point bar and overbank settings associated with unit Qhw_1; composed of unconsolidated clayey sand and sandy clay with gravel.

Qha_1 — Alluvial deposits (Holocene) - Deposited as overbank material associated with unit Qhw_1, recognized by scour and incised channeling features; composed of unconsolidated sandy clay with some gravel.

Qhf — Alluvial fan deposits (Holocene) - Includes active fan deposits, deposited by streams emanating from mountain canyons to the north onto the alluvial valley floor; deposits originate as debris flows, hyperconcentrated mudflows or braided stream flows; composed of moderately to poorly sorted and moderately to poorly bedded sandy clay with some silt and gravel.

Qhff — Alluvial fan deposits, fine facies (Holocene) - Fine-grained alluvial fan and flood plain overbank deposits on very gently sloping portions fo the valley floor; composed predominantly of clay with interbedded lenses of coarser alluvium (sand and occasional gravel).

Qf — Alluvial fan deposits (late Pleistocene to Holocene) - Deposited on gently sloping, relatively undissected alluvial surfaces where deposits might be of either late Pleistocene or Holocene age, composed of moderately to poorly sorted sand, gravel, silt , and clay.

Qpf — Alluvial fan deposits (late Pleistocene) - Late Pleistocene age is indicated by soil development and greater dissection than is present on Holocene fans. Pleistocene fans may be either veneered or incised by Holocene fans. Unit composed of moderately to poorly sorted and bedded gravel, sand, silt, and clay.

Qoa — Alluvial deposits (early to middle Pleistocene) - Moderately to deeply dissected undifferentiated alluvial deposits where topography often consists of gently rolling hills with little or none of the original planar surface preserved, or tilted surfaces along active range fronts, composed of moderately to poorly sorted and bedded gravel, sand, silt, and clay.

Qls — Landslide deposits (Holocene to Pleistocene) - Includes numerous active landslides; composed of weathered, broken up rocks and soil, extremely susceptible to renewed landsliding.

Qs — Saugus Formation (Pleistocene) - Weakly consolidated alluvial deposits composed of sandstone and siliceous shale gravel and cobbles in sand matrix, moderately susceptible to landsliding.

Qlp — Las Posas Formation (Pleistocene) - Weakly consolidated sandstone, with some gravelly sand units, highly susceptible to landsliding.

Tcvai — Conejo Volcanics (middle Miocene) - Intrusive andesitic rocks.

Tcvdi — Conejo Volcanics (middle Miocene) - Intrusive dacitic rocks.

Tcvb, Tcvbs — Conejo Volcanics (middle Miocene) - Basaltic flows with some flow breccias. Tbs = interbedded with sandstone and siltstone layers.

Tcvab — Conejo Volcanics (middle Miocene) - Andesitic flow breccias with some flows.

Tcvdb — Conejo Volcanics (middle Miocene) - Dacitic flow breccias with some flows.

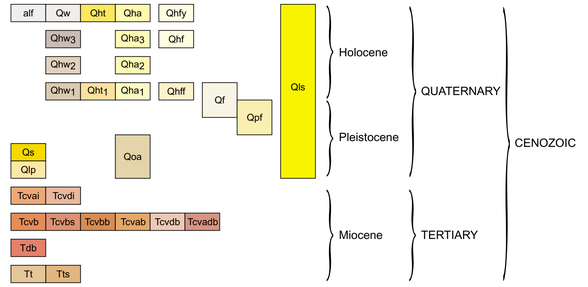
Tcvadb — Conejo Volcanics (middle Miocene) - Mixture of andesitic and dacitic flow breccias with some flows.

Tcvbb — Conejo Volcanics (middle Miocene) - Basaltic flow breccias with some flows.

Tdb — Undivided diabase and mafic hypabyssal intrusive rocks (Miocene) - Gabbroic and dioritic composition.

Tt, Tts — Topanga Formation (middle to early Miocene) - Consists of interbedded siltstone, sandstone and shale. Tts = dominantly composed of sandstone.

CORRELATION OF MAP UNITS



MAP SYMBOLS

- Contact between map units - Generally approximately located or inferred, dotted where concealed.
- Contact between similar map units of different relative age - Recognized by scour and incised channelling features. Generally approximately located.
- Fault - Generally approximately located or inferred, dotted where concealed, queried where location is uncertain.
- Axis of anticline
- Axis of syncline
- 25 — Strike and dip of bedding.
- Landslide - Arrows indicate principal direction of movement, queried where existence is questionable (some geologic features are drawn within questionable landslides); hachured where headscarp is mappable.

REFERENCES

The bedrock geology of the present map is largely modified from Dibblee and Ehrenspeck (1990).

Bailey, T.L., 1951, Geology of a portion of the Ventura Basin, Los Angeles and Ventura counties, California: unpublished map, scale 1:48,000.

Boales, P.V., 1991, Near-surface geology of the southwestern Las Posas Hills area, Camarillo, Ventura County, California: Association of Engineering Geologists, Southern California Section, Field Trip Guide Book, vol. 2, 1991 Annual Field Trip, p. 230 - 247.

Dibblee, T.W., Jr., and Ehrenspeck, H.E., 1990, Geologic Map of the Camarillo and Newbury Park quadrangles, Ventura County, California: Dibblee Geological Foundation Map DF-28, scale 1:24,000.

Edwards, R.D., Rabey, D.F. and Kover, R.W., 1970, Soil survey of the Ventura area, California: U.S. Department of Agriculture, Soil Conservation Services, 151 p., scale 1:24,000.

Gamble, J.H., 1957, Geology of the Point Mugu and Camarillo quadrangles, Ventura County, California: University of California, Los Angeles, M.A. Thesis, 94 p., Plate 1, scale 1:48,000.

Gorian and Associates, Inc., 1987, Geotechnical investigation and detailed slope stability evaluation, tentative Tract 4222, Camarillo Hills, Ventura County, California: unpublished consultant report and geotechnical map dated September 21, Work Order 1706-1-11.

Hitchcock, C.S., Helms, J.D., Lindvall, S.C., Randolph, C.E., Weaver, K.D., and Lettis, W.R., 2000, Liquefaction hazard mapping, Ventura County, California: Final Technical Report, U.S. Geological Survey, Award 99-HQ-GR-0117, 21 p., 4 plates.

Irvine, P.J., 1995, Landslide hazards in the Moorpark and Santa Paula quadrangles, Ventura County, California: California Division of Mines and Geology Open-File Report 95-07, Plate C, scale 1:24,000.

Irvine, P.J., 1994, Photo reconaissance map of major landslides in the Green Meadows fire area, Ventura County, California: California Division of Mines and Geology, unpublished map, scale 1:24,000.

Jakes, M.C., 1979, Surface and subsurface geology of the Camarillo and Las Posas Hills area, California: Oregon State University, M.S. thesis, 105 p., Plate 1, scale 1:24,000.

Kile, M.B., McMillan, K., McNamara, J.E., Primas, T.M., and Butler, G., 1991, Structural geology of the westernmost Camarillo Hills, Ventura County, California: Association of Engineering Geologists, Southern California Section, Field Trip Guide Book, vol. 1, 1991 Annual Field Trip, p. 67-75.

McNamara, J.E., McMillan, K., Lopez, W.B., Kile, M.B., Butler, G., and Alstine, D.V., 1991, Saugus formation stratigraphy, Camarillo Hills, Ventura County, California: Association of Engineering Geologists, Southern California Section, Field Trip Guide Book, vol. 1, 1991 Annual Field Trip, p. 57-66.

Pasta, D., 1958, Geology of the Las Posas-Camarillo Hills area, Ventura County, California: University of California, Los Angeles, M.A. thesis, 59 p.

Pressler, E.D., 1929, The Fernando Group in the Las Posas-South Mountain District, Ventura County, California: University of California Publications, Bulletin of the Department of Geological Sciences, v. 18, no. 13, p. 325-345.

Silva, M.A. and Rosinski, A., 2002, Earthquake-induced landslide zones in the Camarillo 7.5-minute quadrangle, Ventura County, California: California Geological Survey, Seismic Hazard Zone Report 054, Section 2, p. 17-34.

Treiman, J.A., 1997, Springville, Camarillo and related faults in the Camarillo and Santa Paula quadrangles, Ventura County, California: California Division of Mines and Geology, Fault Evaluation Report FER-237, 32 p.

Turner, D.L. and Campbell, R.H., 1979, Age of the Conejo Volcanics, in Yerkes, R.F., and Campbell, R.H., Stratigraphic nomenclature on the central Santa Monica Mountains, Los Angeles County, California: U.S. Geological Survey Bulletin 1457-E, p. 17-22.

Weber, F.H., Jr., Cleveland, G.B., Kahle, J.E., Kiessling, E.W., Miller, R.V., Mills, M.F., and Morton, D.M., 1973, Geology and mineral resources study of southern Ventura County, California: California Division of Mines and Geology, Preliminary Report 14, 102 p.

Whitney, R.A., and Gath, E.M., 1991, Structure, tectonics, and surface rupture hazard at the Las Posas Anticline, Ventura County, California: Association of Engineering Geologists, Southern California Section, Field Trip Guide Book, vol. 2, 1991 Annual Field Trip, p. 164-183.

Williams, R.E., 1977, Miocene volcanism in the central Conejo Hills, Ventura County, California: University of California, Santa Barbara, M.A. thesis, 117 p.

Winterer, E.L., and Durham, D.L., 1962, Geology of southeastern Ventura Basin, Los Angeles County, California: U.S. Geological Survey Professional Paper 334-H, p. 275-366.